

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS**

KONINKLIJKE KPN N.V.,

Plaintiff,

v.

TELEFONAKTIEBOLAGET LM  
ERICSSON and ERICSSON INC.,

Defendants.

C.A. No. 2:21-cv-113

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

This is an action for patent infringement in which Plaintiff Koninklijke KPN N.V. (“KPN”) makes the following allegations against Telefonaktiebolaget LM Ericsson (“LM Ericsson”) and Ericsson Inc. (“Ericsson USA”) (collectively, “Ericsson”).

**BACKGROUND**

1. KPN’s extensive research and development efforts have led to hundreds of issued patents in the United States and across the world, which KPN has licensed to many leading global telecommunications companies. This includes many of Ericsson’s competitors, including [REDACTED], each of which has licensed one or more of United States Patent Nos. RE48,089 E; 8,881,235 B2; 9,253,637 B2; 9,549,426 C1; and 9,667,669 B2 (collectively, the “Asserted Patents”).

2. KPN also has made its patents available for license both through bilateral negotiations and through joint licensing or patent pool licensing arrangements, including through agreements with at least Avanci, Sisvel, and Via Licensing.

[REDACTED]

3. [REDACTED]

[REDACTED].

4. Further, prior to filing suit, KPN provided Ericsson with notice of its infringement of each Asserted Patent and Ericsson's resulting need to license each. KPN also offered to provide Ericsson with a license to each.

5. Despite these efforts, Ericsson has not obtained a license or any other non-assertion rights to any of the Asserted Patents. KPN thus files this suit to protect its valuable intellectual property rights.

### **PARTIES**

6. Plaintiff Koninklijke KPN N.V. is a telecommunications (including fixed, mobile, television, and internet) and ICT solution provider headquartered at Wilhelminakade 123, NL-3072 AP, Rotterdam, The Netherlands.

7. On information and belief, Defendant LM Ericsson is a corporation organized and existing under the laws of Sweden with a principal place of business at Torshamnsgatan 21, Kista, Stockholm, 164 83, Sweden.

8. On information and belief, Defendant Ericsson USA is a corporation organized and existing under the laws of Delaware with a principal place of business at 6300 Legacy Drive, Plano, Texas 75024.

### **JURISDICTION AND VENUE**

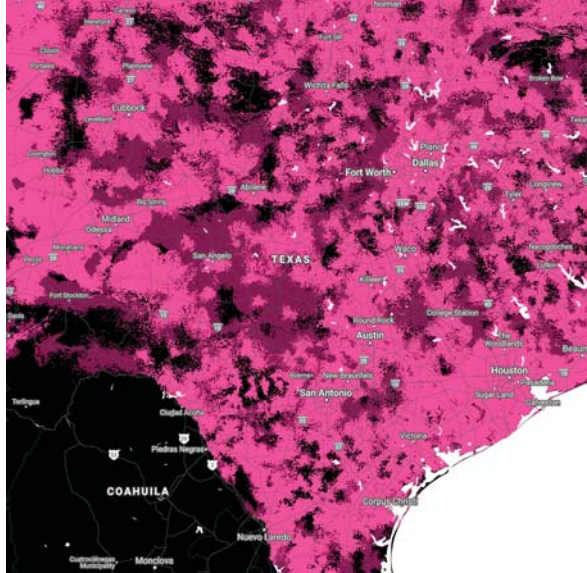
9. This action arises under the patent laws of the United States, Title 35 of the United States Code.

10. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

11. This Court has personal jurisdiction over LM Ericsson because, directly or through intermediaries, it has committed acts within Texas giving rise to this action and/or has established minimum contacts with Texas such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice.

12. Specifically, during the infringing time period, LM Ericsson has placed one or more infringing products into the stream of commerce via an established distribution channel with the knowledge and/or understanding that such products were being offered for sale, and/or sold to customers, and/or utilized in Texas. LM Ericsson also has contracted with various entities to perform certain services in Texas, including in the Eastern District of Texas.

13. For example, according to a press release (<https://www.t-mobile.com/news/press/ericsson-5g-agreement>; <https://www.ericsson.com/en/news/2021/1/t-mobile-expands-5g-nationwide>) LM Ericsson has contracted with T-Mobile for the expansion and enhancement of T-Mobile's U.S. 5G network, which includes both 5G New Radio hardware and software, and 5G Standalone ("SA") architecture from LM Ericsson. T-Mobile and Ericsson have also conducted trials of Ericsson's 5G SA New Radio ("NR") software on T-Mobile's commercial network (<https://www.fiercewireless.com/wireless/ericsson-touts-standalone-5g-software>). T-Mobile offers 5G service in Houston, Texas (<https://www.houstonchronicle.com/techburger/article/T-Mobile-s-5G-network-is-live-in-Houston-and-14874231.php>), as well as in the Eastern District of Texas (<https://www.t-mobile.com/business/coverage/5g-coverage-map>).



14. Further, according to a press release (<https://www.ericsson.com/en/press-releases/2017/12/verizon-awards-5g-contract-to-ericsson>), LM Ericsson has contracted with Verizon in the deployment of Verizon's 5G Core network. Verizon offers 5G service in Dallas, Texas; Houston, Texas; and Arlington, Texas (<https://www.verizon.com/about/news/verizon-5g-ultra-wideband-service-available-more-cities>).

15. LM Ericsson also has contracted with Verizon to deploy Ericsson's Radio System series, which is compatible with both 4G LTE and 5G (<https://www.fiercewireless.com/wireless/verizon-awards-new-lte-markets-to-ericsson>; <https://www.zdnet.com/article/ericsson-bringing-advanced-lte-to-more-verizon-cities/>). Verizon offers 4G LTE service in numerous cities across Texas, including Abilene, Amarillo, Austin, Beaumont-Port Arthur, Big Springs, Brownsville, Bryan-College Station, Corpus Christi, Dallas-Fort Worth, El Paso, Houston, Laredo, Longview-Marshall, Lubbock, Lufkin-Nacogdoches, McAllen, Midland, Odessa, Paris, San Angelo, San Antonio, Sherman-Denison, Temple-Killeen, Texarkana, Tyler, Victoria, Waco, and Wichita Falls (<https://www.verizon.com/featured/lte-advanced/>). LM Ericsson also collaborated with Verizon in its test of advanced LTE technologies

[REDACTED]

that took place in Irving, Texas, using LM Ericsson's Radio 2208 outdoor micro base station, indoor B48 Radio Dot system unit 5216, and radio system comprising 4x4 MIMO and 4x 20MHz carrier aggregation including the CBRS spectrum (<https://www.zdnet.com/article/ericsson-bringing-advanced-lte-to-more-verizon-cities/>).

16. Further, according to a press release (<https://www.ericsson.com/en/news/2018/8/us-5g-milestones>), LM Ericsson has contracted with AT&T to be one of AT&T's technology suppliers for its 5G network. AT&T and Ericsson have conducted a 5G data transfer using Ericsson's 5G-NR capable radios in Waco, Texas (<https://www.ericsson.com/en/news/2018/8/us-5g-milestones>). AT&T and LM Ericsson have also collaborated in providing a fixed wireless 5G signal to select customers in Austin, Texas, using Ericsson's 5G radio access network (<https://www.ericsson.com/en/news/2017/6/att-launches-5g-trial-with-directv-now-in-austin>). AT&T offers 5G service in Houston, Texas, and Waco, Texas.

17. Further, LM Ericsson and Ericsson USA are applying Ericsson's 5G Core system at Ericsson USA's headquarters in Plano, Texas (<https://www.ericsson.com/en/press-releases/6/2020/ericsson-powers-north-texas-campus-with-5g-distributed-innovation-network>).

18. Because this Court has personal jurisdiction over LM Ericsson—a foreign corporation—venue is proper pursuant to 28 U.S.C. § 1391(c).

19. This Court has personal jurisdiction over Ericsson USA because it has its principal place of business in Plano, Texas.

20. Further, Ericsson USA maintains a significant physical presence in the Eastern District of Texas, including maintaining its headquarters is located at 6300 Legacy Drive, Plano, Texas 75024.

21. Further, upon information and belief, Ericsson USA has developed, marketed, and sold one or more infringing products in the Eastern District of Texas. For example, Ericsson Inc. has established a “smart factory” in Lewisville, Texas, at which Ericsson USA is manufacturing 5G base stations (<https://www.ericsson.com/en/press-releases/2020/3/ericsson-usa-5g-smart-factory-produces-its-first-base-stations>).

22. For the reasons set forth above, venue is proper for Ericsson USA under 28 U.S.C. § 1400.

### **THE ASSERTED PATENTS**

23. This lawsuit asserts causes of action for infringement of U.S. Patent Nos. RE48,089 E; 8,881,235 B2; 9,253,637 B2; 9,549,426 C1; and 9,667,669 B2.

#### **A. U.S. Patent No. RE48,089 E**

24. On July 7, 2020, the United States Patent and Trademark Office (“PTO”) reissued U.S. Patent No. RE48,089 E (“the ’089 Patent”), which is entitled “Method and System for Automatic Coverage Assessment for Cooperating Wireless Access Networks.” The ’089 Patent is a reissue of U.S. Patent No. 8,626,175. KPN owns all substantial rights to the ’089 Patent, including the right to sue and recover damages for all infringement thereof.

25. The ’089 Patent is directed to improving prior art “telecommunications “infrastructure[]” systems, including the terminals used in conjunction with such systems. Specifically, as the patent recites, prior art systems employed various techniques for “evaluat[ing] the coverage area of their wireless access networks.” ’089 Patent at 1:34-36. Such techniques include “drive tests” in which a “measurement terminal” is “mounted on a vehicle” or “operators collect statistical information from the network nodes about events that can be used to

[REDACTED]

roughly indicate coverage problems such as failed connections, inter-radio access technology (inter-RAT ) handovers and cell reselections, etc.” ’089 Patent at 1:32-62.

26. As the patent describes, such prior art systems and techniques had a number of drawbacks, including both the cost of performing such coverage evaluations, as well as their efficacy. In particular, a “drawback is that the network statistics collection has its basic limitation in that only the signals and events for the terminals that are connected to / camping on the network may be reported.” ’089 Patent at 1:63-2:9.

27. The ’089 Patent claims are directed to solving the need in the prior technical art “for generating a coverage assessment in a telecommunications infrastructure in a manner that minimizes or eliminates at least some of the drawbacks the current approaches described above.” ’089 Patent at 2:10-14. In particular, the claims are directed to a specific improvement to then-existing infrastructure and terminals: improvements enabling them to perform “an assessment of the coverage of a wireless access network within a desired area ... via cooperating wireless access networks and terminals capable of measurement and reporting *across the different wireless access networks*.” ’089 Patent at 3:47-52 & Claims 1, 6, 11, 12, 13, 15.

28. In short, the claims recite systems and devices able to utilize terminals in one wireless access network to measure and report signals in another (second) wireless access network in order to perform a coverage evaluation, including by, “among other things, the ability of generating coverage assessment for one of the wireless access networks using results of the measurements collected *through one of the other wireless access networks*.” ’089 Patent at 3:52-56, 4:56-61, 7:10-22, 7:55-67, 8:34-9:19, 10:52-64, & Claims 1, 6, 11, 12, 13, 15. This specific improvement results in a “more accurate and complete coverage assessment,” including by

allowing for assessments of otherwise “out of coverage” areas. It also allows for “less costly” coverage assessments.

29. Further, the embodiments described in each claim were entirely non-conventional. As the patent describes, prior art systems were never contemplated, much less configured, to select and instruct devices on one wireless access network to measure signals of a second wireless access network and report such information. Nor were prior art systems contemplated, much less configured, to receive such information and use it to perform a coverage assessment of said second network. To the contrary, as the patent explains, the manner in which the claims improve then-existing “telecommunications “infrastructure[]” systems results in “more accurate and complete coverage assessment” that also is more cost-effective and efficient to obtain. ’089 Patent at 10:52-64.

30. KPN has submitted a declaration to ETSI stating, “[t]o the extent that [U.S. Patent No. 8,626,175] ... [is] or become[s], and remain[s] ESSENTIAL ..., the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licenses under this[] IPR[] on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1 bis of the ETSI IPR Policy.”

31. On information and belief, Ericsson denies that any claim of the ’089 Patent is ESSENTIAL IPR to any ETSI standard.

32. On information and belief, Ericsson denies that any claim of the ’089 Patent ever has been ESSENTIAL IPR to any ETSI standard.

**B. U.S. Patent No. 8,881,235 B2**

33. On November 4, 2014, the PTO issued U.S. Patent No. 8,881,235 B2 (“the ’235 Patent”), which is entitled “Service-Based Authentication to a Network.” KPN owns all



substantial rights to the '235 Patent, including the right to sue and recover damages for all infringement thereof.

34. The '235 Patent is directed to improving then-existing devices and the techniques they use for “authentication to a network”—in particular telecommunications devices and telecommunications networks. '235 Patent at 1:14-18. As the patent describes, some prior art techniques “only authenticate[d] the mobile device to the network, but not the other way around.” '235 Patent at 1:35-39. In other words, they did not authenticate the network to the device, which left the devices “vulnerable to so-called false base station attacks wherein an attacker pretends to be a valid base station.” '235 Patent at 1:39-41.

35. The '235 Patent also describes how prior art techniques tried to solve this issue utilizing “mutual authentication wherein the mobile device has to authenticate itself to the Visitor Location Register (VLR) and the VLR has to authenticate itself to the mobile device.” '235 Patent at 1:41-48. However, such techniques still were “vulnerable to the so-called man-in-the-middle attacks, wherein a mobile device of an attacker may use authentication information from the (U)SIM of the victim in order to obtain access to the network” and “set up calls on the expenses of the victim thereby causing substantial damage.” '235 Patent at 1:49-59.

36. The claims of the '235 Patent are directed to a specific improvement to such prior art technological systems and techniques. Specifically, the claims are directed to devices and techniques that improve over prior art authentication techniques by further requiring a determination of the communication channel through which the request was received and secure insertion of information regarding the communication channel into the authentication response. For example, a terminal has to provide a modified response wherein the modification depends on the identified communication channel. The network also has to compute a modified expected

[REDACTED]

response, the modification again depending on the identified communication channel. The network compares the terminal's modified response with the network's modified expected response.

37. Thus, in the context of Claim 11, for example, the claims are directed to an improved network node that is configured to determine a service code associated with the identified communication channel, first calculating the expected response XRES and then modifying the expected response using the service code, and thus “generat[ing] in response to the receipt of an authentication data request a modified expected response XRES', wherein the modification of the expected response XRES depends on the type of communication channel the authentication data [request] was sent to the network.” ’235 Patent at 4:15-22. As the patent explains, “[s]uch service-based authentication method effectively prevents misuse of authentication information, e.g. a man-in-the-middle attack wherein an attacker uses authentication information from the (U)SIM of the victim in order to obtain access to the network”—dramatically improving over then-existing telecommunications authentication techniques.

38. Further, this claimed improvement was entirely non-conventional. As the patent describes, prior art systems never contemplated extracting information regarding the communication channel encrypted in the terminal response and using such information for authentication purposes. Rather, such techniques required modifying the then-existing systems and techniques to incorporate this improved authentication mechanism. ’235 Patent at 3:24-29.

39. KPN has submitted a declaration to ETSI stating, “[t]o the extent that the [’235 Patent] ... [is] or become[s], and remain[s] ESSENTIAL ..., the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licenses under this[] IPR[] on terms and

conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1 bis of the ETSI IPR Policy.”

40. On information and belief, Ericsson denies that any claim of the '235 Patent is ESSENTIAL IPR to any ETSI standard.

41. On information and belief, Ericsson denies that any claim of the '235 Patent ever has been ESSENTIAL IPR to any ETSI standard.

**C. U.S. Patent No. 9,253,637 B2**

42. On February 2, 2016, the PTO issued U.S. Patent No. 9,253,637 B2 (“the '637 Patent”), entitled “Telecommunications Network and Method for Time-Based Network Access.” KPN owns all substantial rights to the '637 Patent, including the right to sue and recover damages for all infringement thereof.

43. The '637 Patent is directed to improving then-existing telecommunications network and devices and techniques for regulating access to such networks. Specifically, at least Claim 16 of the '637 Patent is directed to a network that is able to, among other things, (1) determine a variable time interval  $x-y$  during which the network load experienced by, or expected for, the telecommunications network is above, or is expected to be above, a particular threshold (for example, for the next 10 minutes or two hours from now) and (2) transmit access denial or access grant information to one or more terminals.

44. This new network functionality represented a marked improvement over then-existing prior art networks—particularly as related to one of the primary purposes of the invention: to provide a better mechanism for influencing or managing client/terminal behavior in order to regulate the use of finite network resources. In particular, at the time of invention, there were two known approaches for managing such behaviour: (1) to “allow access to the network at

[REDACTED]

all times but charge a (very) high rate for data sent outside the off-peak time” and (2) “blocking access to the terminal during peak hours as a rule in a RADIUS server.” ’637 Patent at 7:40-64. Both had drawbacks. The first approach provided “no incentive for the user to tear down the connection (i.e. the PDP context) to the network. It only provides an incentive to not send data during the expensive peak hour.” It also requires a more complicated billing system that allows charging higher rates at certain times.” And because the second approach allows a terminal to attach to the network, “network resources would already be consumed before access [to the external network ultimately] is blocked by the RADIUS server.” In other words, because then-existing networks contemplated that access would be blocked only *after* both network attachment had occurred and a data connection (PDP context) had been established, it was unable to control the use of network resources needed for (and ultimately wasted by) performing such processes. Moreover, it was understood that a terminal might respond to such blocking/denial by immediately making another access request—resulting in the need for the continued expenditure (and ultimately wasting) of network resources.

45. The improved network disclosed in Claim 16 was directed to improving over these inherent limitations in the prior technological art. In particular, the inventors recognized that it would be more efficient to regulate the behavior of terminals directly and to do so in a manner that eliminated the load on the network caused by repeated access requests.

46. Accordingly, Claim 16 is directed to an improved network configured to limit access to at least some network resources on a terminal-by-terminal basis based on either real or expected network load and, further, to transmit such information to one or more terminals to better control the use of and preserve network resources. Not only was such a telecommunications network not previously contemplated in the art (forcing network operators

[REDACTED]

to resort to billing at increased rates to attempt to influence client behavior and/or accepting that repeated access requests would be made and that network resources ultimately would have to be expended to deny them), but it also was not contemplated that a terminal could be configured such that it could receive and act in accordance with an instruction not to request access to the telecommunications network during particular time intervals, for example in case of an above average network load.

47. The '637 Patent has been cited as pertinent prior art by an applicant or a PTO examiner during the prosecution of at least 27 published patent applications, including during the prosecution of two patents assigned to LM Ericsson.

48. KPN has submitted a declaration to ETSI stating, “[t]o the extent that the ['637 Patent] ... [is] or become[s], and remain[s] ESSENTIAL ..., the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licenses under this[] IPR[] on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1 bis of the ETSI IPR Policy.”

49. On information and belief, Ericsson denies that any claim of the '637 Patent is ESSENTIAL IPR to any ETSI standard.

50. On information and belief, Ericsson denies that any claim of the '637 Patent ever has been ESSENTIAL IPR to any ETSI standard.

**D. U.S. Patent No. 9,549,426 C2**

51. On November 10, 2020, the PTO issued an Ex Parte Reexamination Certificate for U.S. Patent No. 9,549,426 C2 (“the '426 Patent”), which is entitled “Method and Telecommunications Node for Controlling an Attach State of a User Equipment.” The PTO issued the original U.S. Patent No. 9,549,426 (B2) on January 17, 2017. KPN owns all

substantial rights to the '426 Patent, including the right to sue and recover damages for all infringement thereof.

52. The '426 Patent is directed to improving then-existing devices and the techniques they use for “controlling an attach state of a user equipment in an attach control node of a telecommunications system further comprising a subscriber database containing subscription data of the user equipment.” '426 Patent at Abstract. In particular, the patent is directed to improving then-existing equipment and techniques “for transferring subscription data in a telecommunications system ... to mitigate the burden of keeping high amounts of MTC [machine-type communications] devices registered in the network”—a recognized problem at the time. '426 Patent at 1:18-2:5.

53. As the patent explains, various solutions had been suggested to overcome this issue, including instructing an MTC device to not register in the telecommunications network when it does not communicate and instead “attach and connect to the network when triggered from the network.” '426 Patent at 2:5-18. The patent also explains, however, that such “non-registration of the MTC devices in the telecommunications network may be disadvantageous in certain cases,” including because “transmission of a cell broadcast signal may be inefficient if only a limited number of MTC devices are distributed over a large number of cells of the network and broadcast resources are wasted in view of the limited number of MTC devices to be triggered.” '426 Patent at 2:19-25.

54. The claims of the '426 Patent are directed to a specific improvement to such prior art technological systems and techniques. Specifically, the claims are directed to equipment configured to vary from then-existing authentication procedures and instead transmit only a partial subset of the required subscription data. As such, a communication session is not

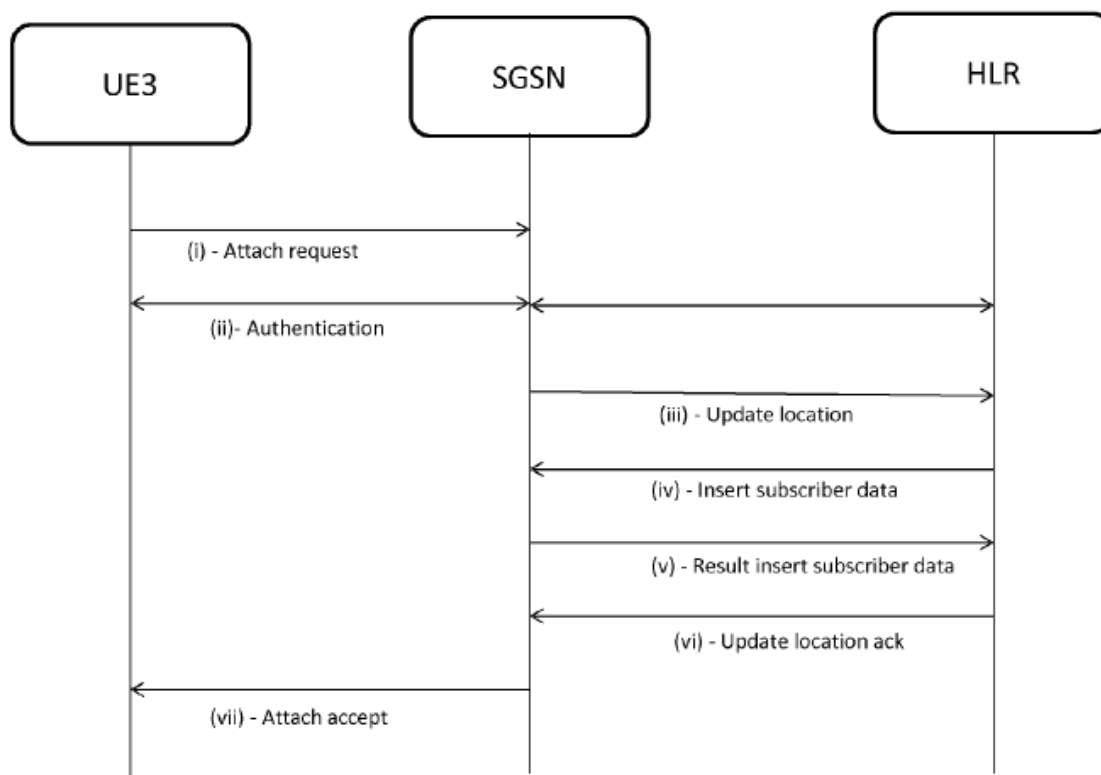
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established at that time. Instead, a communication session is established only after a subsequent transfer of subscription data.

55. As the '426 Patent explains, the improved equipment claimed in Claim 10 confers a number of benefits. "By only storing in the attach control node the first set of subscription data and omitting storing at least part of the set of subscription data required for establishing a communication session, a partial attach state is obtained for the user equipment in the telecommunications network. The partial attach state is defined by the content of the first set of subscription data. The storage of the first set of subscriber data in the attach node provides information about the cells where the user devices are positioned, viz. those cells for which the particular attach node is responsible. However, since the first set of subscriber data is not the complete set of subscriber data required for enabling the full attach of the user equipment to the telecommunications system, resources are saved in the attach control node. This disclosed solution provides for a good balance between a better awareness in the network of the cell location of the user equipment and the saving of resources in the attach node." '426 Patent at 3:46-62.

56. Further, by employing the improved network node recited in Claim 10, "[r]esources may also be saved on the radio path between the user equipment and the telecommunications system, particularly for LTE telecommunications system." '426 Patent at 6:26-28.

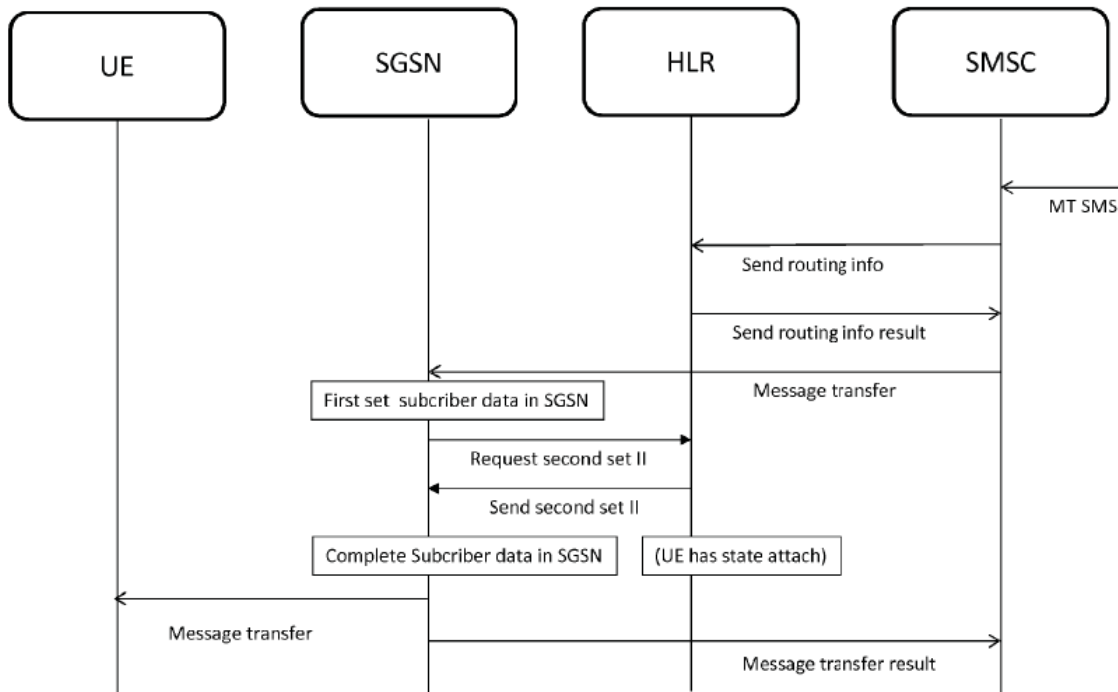
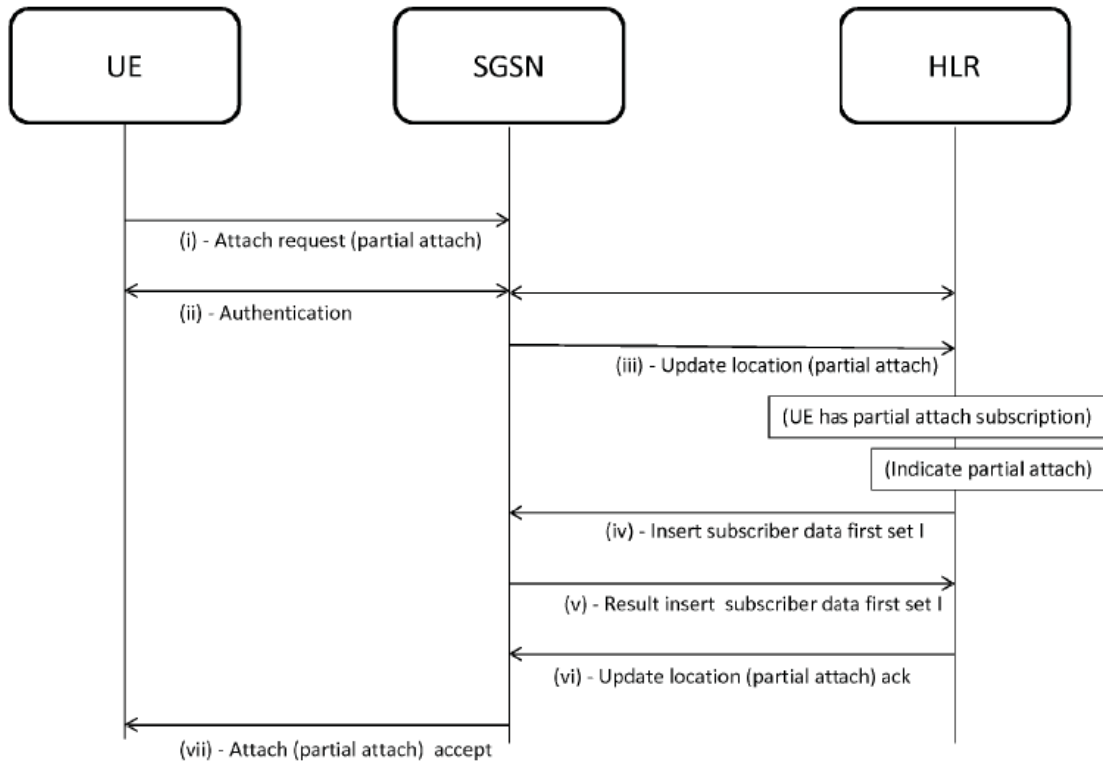
57. Further, this claimed improvement was entirely non-conventional. As the patent describes (and depicts), in the prior art, components like "the SGSN store[] all the information necessary for completing the attach procedure such that a communication session can be established subsequently by establishing a PDP context for the UE 3." '426 Patent at 10:17-20.

**FIG. 2A**

58. In contrast, the invention of Claim 10 deviates from the conventional configuration by storing a “first set of subscription data insufficient for enabling establishment of a communication session between the user equipment and the telecommunications system.” Instead, “storage of the first set of subscriber data results in a partial attach state for the user equipment UE 3 in the telecommunications system” that “is defined by the content of the first set of subscriber data. Only in response to another trigger, [s]ubscriber data is transferred from the subscriber data system to the attach control node such that a complete attach of the user equipment to the telecommunications system is possible (step B).” ’426 Patent at 9:27:48.

59. The distinctions in this entirely non-conventional approach also are depicted in Figures 5C and 7C, which depicts the application of the invention in the exemplary context of a 3G system:





60. As detailed below, the invention also has since been applied in the context of 5G communications.

61. KPN has submitted a declaration to ETSI stating, “[t]o the extent that the [’426 Patent] ... [is] or become[s], and remain[s] ESSENTIAL ..., the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licenses under this[] IPR[] on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1 bis of the ETSI IPR Policy.”

62. On information and belief, Ericsson denies that any claim of the ’426 Patent is ESSENTIAL IPR to any ETSI standard.

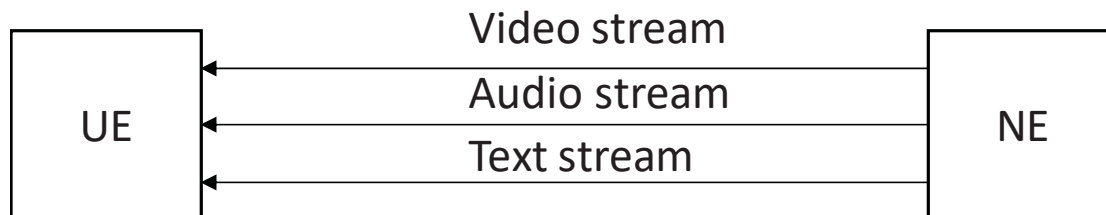
63. On information and belief, Ericsson denies that any claim of the ’426 Patent ever has been ESSENTIAL IPR to any ETSI standard.

**E. U.S. Patent No. 9,667,669 B2**

64. On May 30, 2017, the PTO issued U.S. Patent No. 9,667,669 (“the ’669 Patent”), which is entitled “Managing Associated Sessions in a Network.” KPN owns all substantial rights to the ’669 Patent, including the right to sue and recover damages for all infringement thereof.

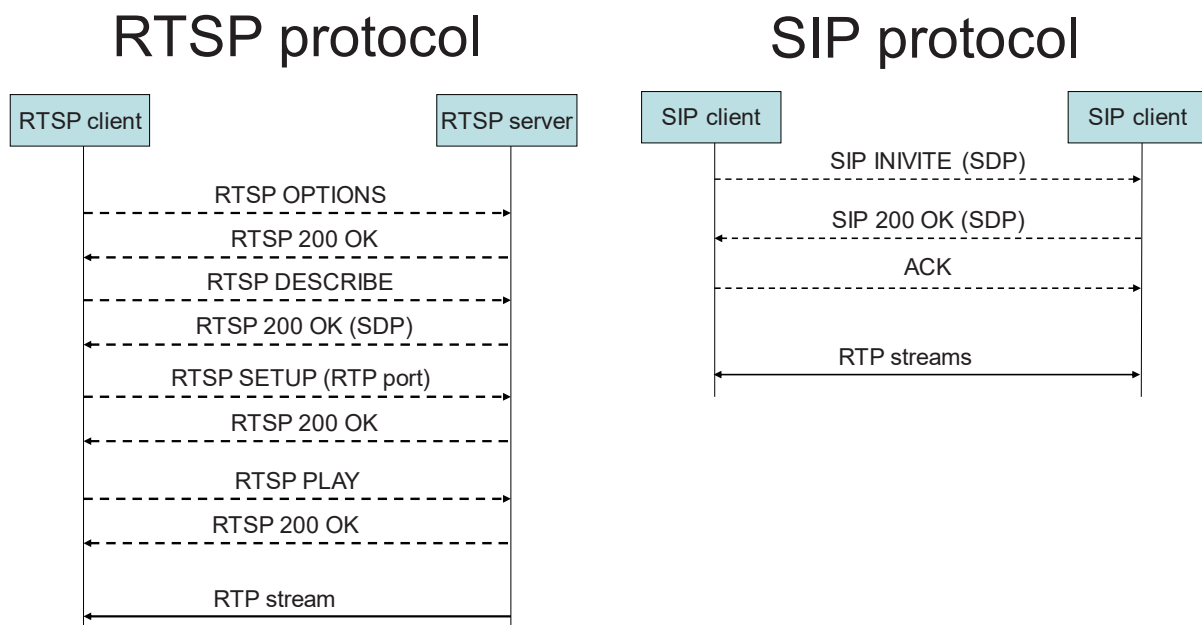
65. The ’669 Patent claims—including Claim 1—teach an improvement to then-existing technological processes related to the use and management of multiple media streams (also known as media sessions). In particular, a multimedia session can comprise several “elementary streams” (also known as “media streams” or “media sessions”). For example, the user device (“UE”) of a user watching a television show might be receiving video, audio, and subtitle media from a network element (“NE”). In such a case, the video media may be transmitted via one elementary media stream, the audio media may be transmitted via another

elementary media stream, and the subtitle media may be transmitted via yet another elementary media stream. This is depicted below:



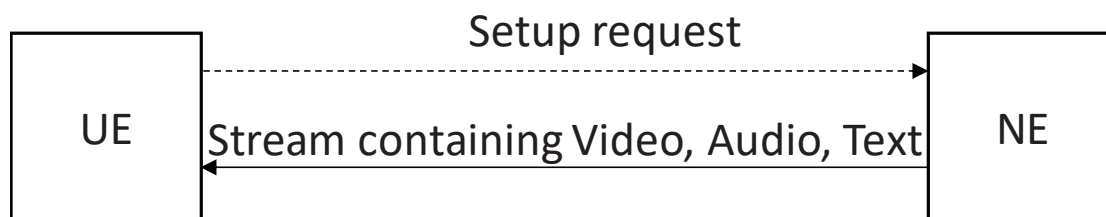
66. Additional elementary media streams also may be transmitted. For example, there may be a separate stream for each video camera angle, audio language, or subtitle option. There also may be a separate stream for each technical format for the video and/or audio media, including different codecs, different quality levels, different resolutions, and different distribution protocols.

67. To set up the transmission of multimedia streams, session control protocols, including SIP (Session Initiation Protocol) or RTSP (Real-Time Streaming Protocol), are used. Such protocols also may use SDP (Session Description Protocol) for session description. These protocols allow a user device to initiate media sessions with a network element and typically require the exchange of multiple signaling messages, including a handshake, codec negotiations, etc., before the media streams are delivered. Examples of such signaling are depicted below:



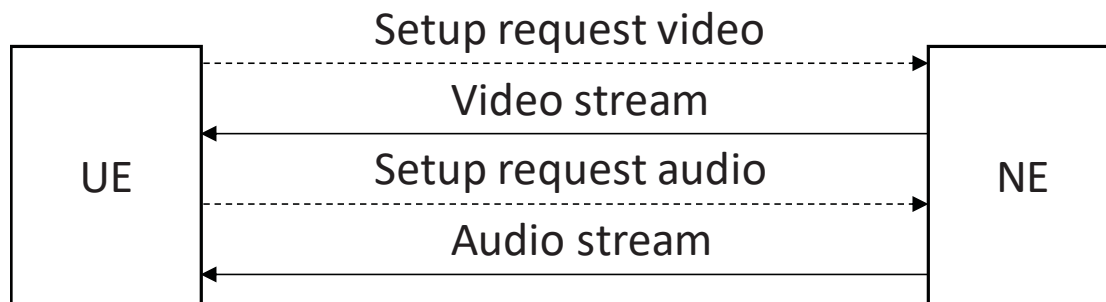
68. At the time of invention, there was no mechanism to associate multiple elementary media streams such that a network or network element could recognize that such streams comprised a single composite multimedia experience.

69. As such, under the prior art technological processes, one way to request the transmission of multiple media streams that collectively comprised a single composite multimedia experience was to request all streams at once. A single session would be initiated, and the various media streams that comprised the desired multimedia experience would be bundled into a single media stream. The bundled media then would be transmitted to the user device, which then would have to choose which of these bundled media streams to utilize.



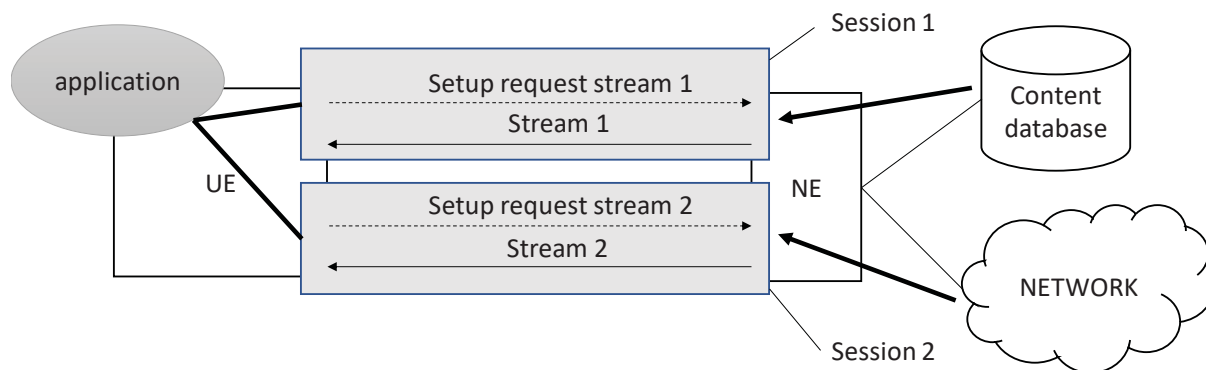
70. This prior art solution was inefficient. Because all potential media streams were requested, bundled, and transmitted, elementary media streams were delivered that might never or were never used (e.g. alternate camera angles or alternate audio languages or subtitles)—wasting data transmission resources.

71. Alternatively, another prior art technique was to individually request each desired elementary stream:



This technique likewise had drawbacks. In particular, because the network element is unaware of the association between the various elementary media streams, it may not treat each stream uniformly or in a manner conducive to the integrity of the overall composite multimedia experience.

72. Moreover, the situation could be even more complex. As depicted in the below figure, the network element may not be the source of the media streams. It may operate simply as a conduit for elementary media streams from external sources like a content database present on or connected to the network equipment or an external network and thus, again, would not know the relationship between the two media streams and thus could not, for example, pause both streams simultaneously:



73. Another problem with this prior art technique was quality of service control. As explained above, the elementary media streams generally are valuable to the user only when associated with each other such that, for example, the video media stream is associated with the audio media so that both are received in concert. Nevertheless, because such elementary video streams were set up individually under the prior art technological process, it was possible for a device or element to set up and allocate bandwidth for a video stream only to learn that there was insufficient bandwidth for the corresponding audio elementary media stream.

74. The claims are directed to improving over these limitations. In particular, the inventors recognized that the problems in the prior technological art processes for multimedia data transmission could be alleviated if such processes were improved to incorporate a mechanism that enabled a user device and a network element to associate two or more elementary media streams as comprising a single multimedia experience, i.e., a composite media session. The inventors also recognized, however, that the technique for enabling such recognition needed to be efficient in terms of delays (time to set up) and processing and bandwidth used, and that, in general, such efficiency is increased when less signaling messages are utilized.

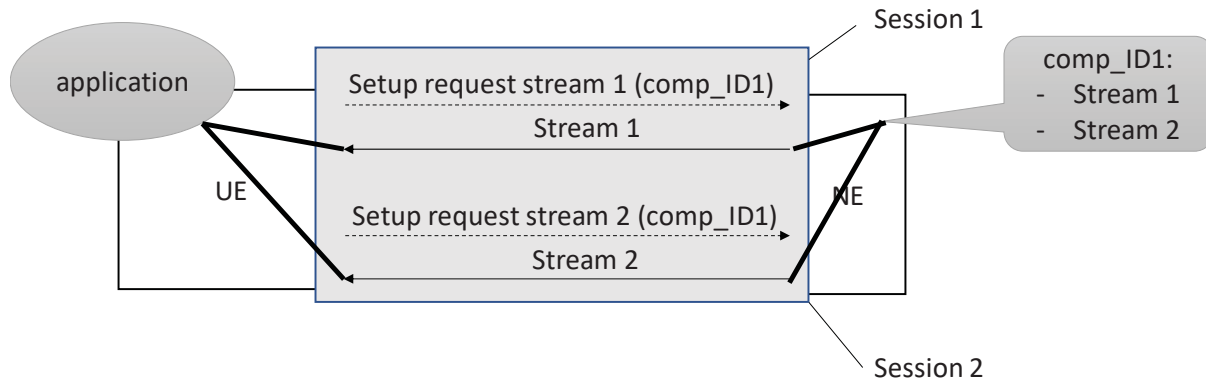
75. As such, one of the innovations of the Claim 1 invention is its use of a new “composite session identifier” that is exchanged between a user device (“UE”) and the network. In particular, as incorporated in the exchange sequence disclosed in Claim 1 of the ’669 patent,

[REDACTED]

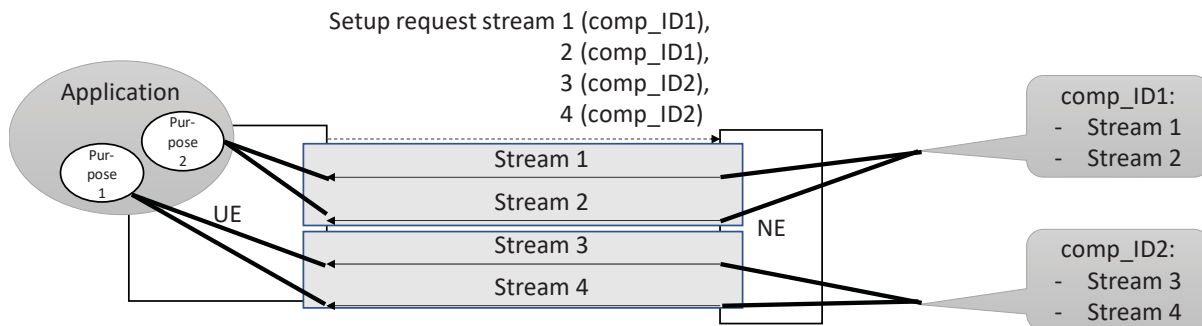
the identifier enables the UE and the NE to associate and recognize multiple elementary media streams as comprising a single composite session, which in turn allows for the streams to be acted upon by the NE collectively—thereby improving the multimedia transmission process as a whole:

1. A method for managing associated sessions in a network, the network having a network element configured for managing associated sessions between the network and at least one user equipment, the method comprising:
  - providing a composition session identifier for associating sessions in the network;
  - after providing the composition session identifier, exchanging the composition session identifier between a user equipment and the network element a first time;
  - associating two or more sessions with the composition session identifier by exchanging the composition session identifier at least a second time, wherein exchanging the composition session identifier at least a second time comprises the network element exchanging the composition session identifier with the user equipment;

76. For example, the incorporation of the disclosed composite session identifier in the specified sequence enables the network element to make decisions that take into account the needs of the overall composite multimedia experience—not just the individual elementary media streams. The use of such a composite session identifier to associate two or more individual elementary media streams is demonstrated below. In the below example, stream 1 and stream 2 each comprise a single elementary stream, each of which is associated as belonging to the same composite session via application of the composite session identifier “comp\_ID1”:



77. Likewise, the invention contemplates that one overall session may be comprised of a number of elementary media streams that are associated with multiple composite sessions, including composite sessions associated with different application sessions. By utilizing multiple composite session identifiers (e.g., “comp\_ID1” and “comp\_ID2”), the streams that belong together can be distinguished by the network element from those that do not:



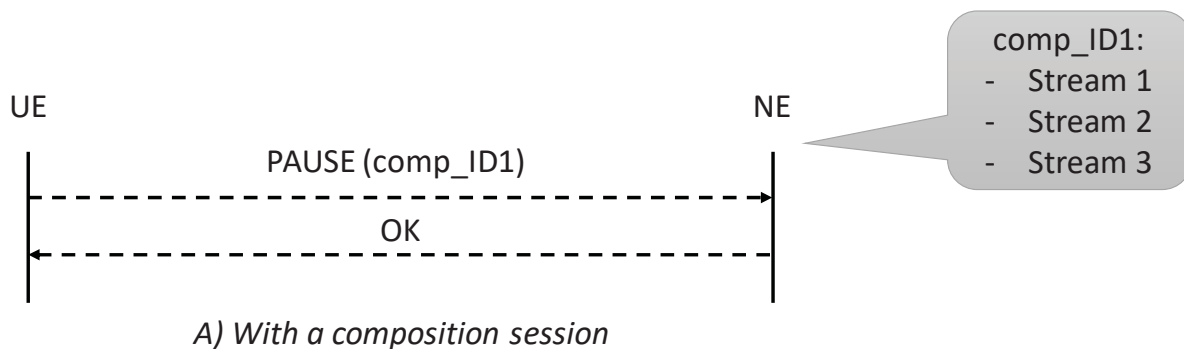
78. The improvement disclosed by the Claim 1 invention is not limited to its use of a new composite session identifier, however. A second inventive aspect of the Claim 1 invention is its further use of a new composition session, which the claim identifies as a signaling session for facilitating the management of two or more sessions:



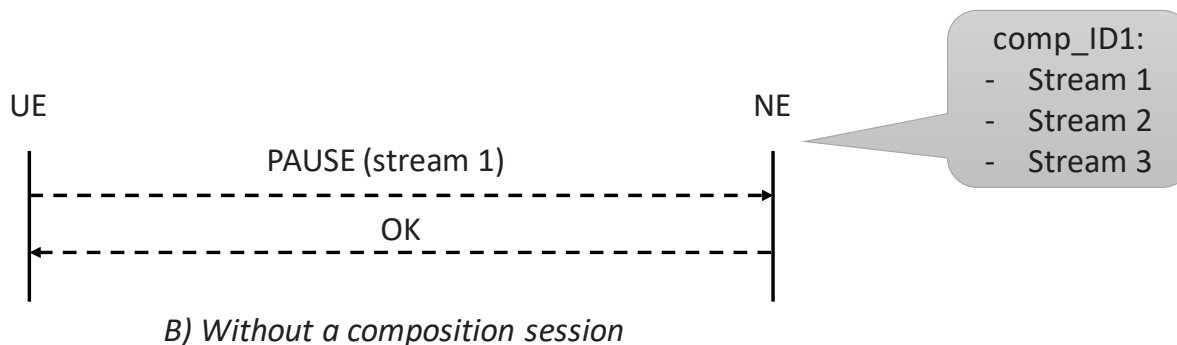
initiating establishment of a composition session, the composition session being a signaling session for facilitating management of the two or more sessions and exchanging the composition session identifier between the user equipment and the network element as part of said establishment, the composition session being different from the two or more sessions; and modifying the composition session, wherein modifying the composition session comprises using signaling in the composition session to terminate all of the two or more sessions.

79. The incorporation of such a composition session further improved over existing technological processes by enabling the user device or the network element to efficiently inform its counterpart of the composite session and to manage such session thereafter.

80. For example, incorporation of this separate “composition session” signaling session further improved over the existing technological processes because it enabled multiple elementary media streams to be managed, utilizing less signaling for certain operations (see examples below) and thus was more efficient (because less signaling in turn requires less processing and less bandwidth) and minimizes delay. This is demonstrated in the context of the pausing of streams. The composition session enables the pausing of all associated elementary media streams through the pausing of the composition session associated with such streams:

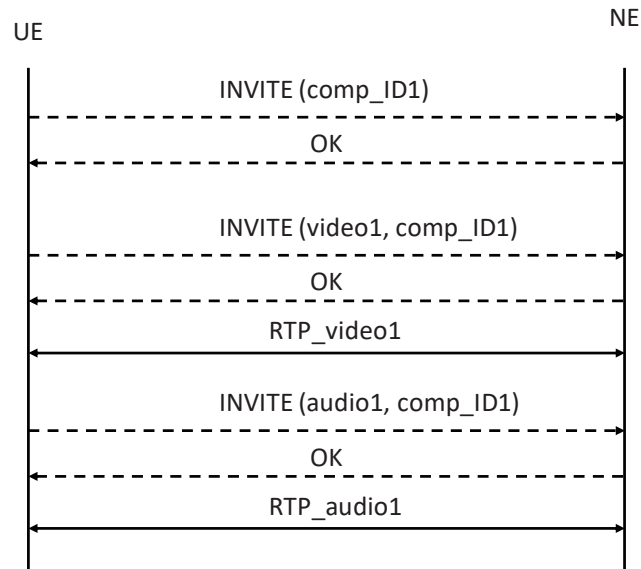


81. Absent such a composite session, separate signaling would have to be sent for each individual media stream, which is less efficient than sending a single message that applies to the complete composition:

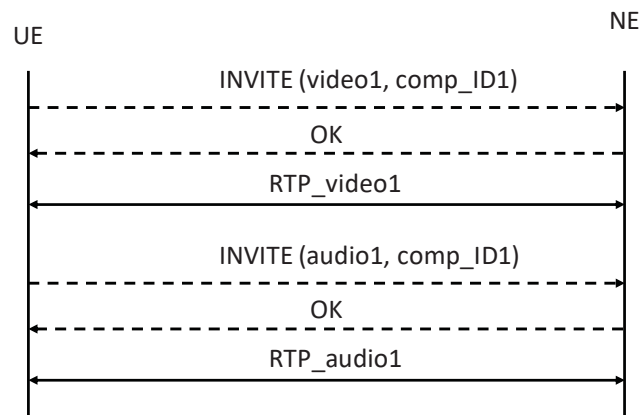


82. Incorporation of such a composition session also improved over existing technological processes by eliminating processing that otherwise would be required on the receiver end, as the receiver does not have to screen (as it otherwise would) all session management signals to see if they include a composition session identifier. Moreover, incorporation of a composition session in the manner recited by Claim 1 further allows a network element to distinguish between operations on the entire composite session (i.e. atomic-operations) and operations on individual elementary media sessions within a composite session.

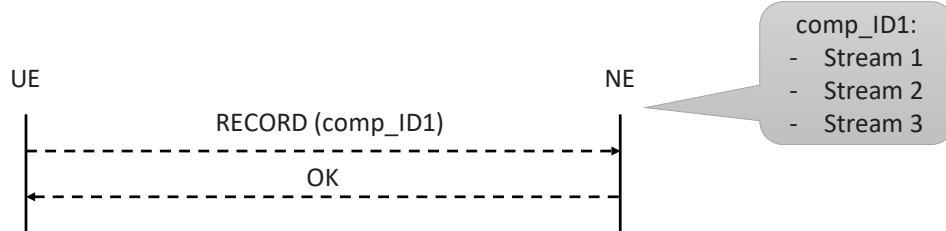
83. Accordingly, one example of the contemplated operation of the Claim 1 invention is as follows: First, a composition session can be set up, after which two distinct elementary media streams can be associated to that session utilizing the composition session identifier “comp\_ID1”:



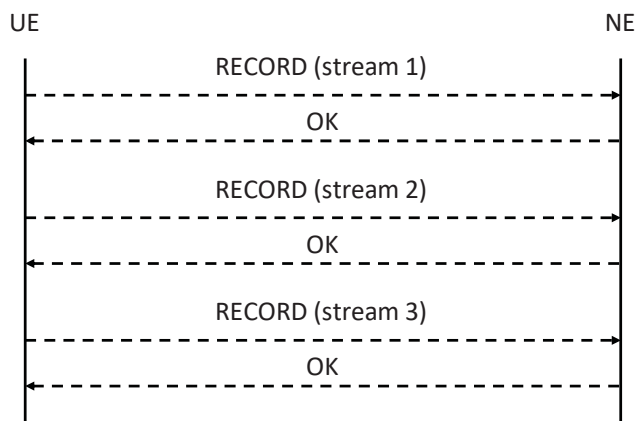
Alternatively, the setup of the composition session can be combined with the association of the first elementary media stream, after which additional elementary media streams can be associated to the session:



84. Once the composition session is created, operations can be performed on all associated elementary media streams collectively. Thus, in the below example, the user device instructs the network element to record the composition session:



85. Again, absent such a composition session, such an instruction would need to be sent for each separate media stream:



86. Not only is this less efficient, but the need for separate signaling may result in the loss of synchronization between the various media streams. For example, the network element may record all streams, but does not keep them synchronized because it is unaware that each of these individual streams comprise a portion of a single composite multimedia session (e.g., that the audio stream accompanies video media that is further accompanied by subtitles). The recording thus may start at different times or content timestamps may not be kept aligned (e.g., a new random content timestamp may be inserted during recording). Not only is such a technique less efficient than the improved method recited in Claim 1 of the '669 patent, but the end result is less desirable.

87. Further, the method of Claim 1, including its incorporation and use of composite session identifiers and composite sessions in the recited manner, was not routine or conventional.

[REDACTED]

At the time of invention SIP and RTSP sessions like those described above were self-contained. They could be used to manage one or more elementary media streams but did not account for or consider elementary media streams outside of their particular session context. Composite session identifiers were not even contemplated in the art—much less contemplated to be utilized to manage multiple separate media streams.

88. Further, use of a composition session as a separate signaling session also was not routine or conventional. To the contrary, use of a single signaling session to manage different separate media sessions (i.e., across session management versus within session management) had not previously been contemplated in the field of media streaming technology.

89. KPN has submitted a declaration to ETSI stating, “[t]o the extent that the [’669 Patent] ... [is] or become[s], and remain[s] ESSENTIAL ..., the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licenses under this[] IPR[] on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1 bis of the ETSI IPR Policy.”

90. On information and belief, Ericsson denies that any claim of the ’669 Patent is ESSENTIAL IPR to any ETSI standard.

91. On information and belief, Ericsson denies that any claim of the ’669 Patent ever has been ESSENTIAL IPR to any ETSI standard.

### **NOTICE**

92. KPN and Ericsson have a long history. Ericsson first negotiated to obtain rights to certain of KPN’s patents after KPN filed litigation against it in December 2003. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

93. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

94. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

95. [REDACTED]

[REDACTED]

[REDACTED]

96. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

97. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

98.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

99.

[REDACTED]

[REDACTED]

[REDACTED]

100.

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[REDACTED]

106. [REDACTED]

107. [REDACTED]

[REDACTED]

108. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

109. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

110. [REDACTED]

[REDACTED]

111. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

112. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



113. Despite these and other efforts, Ericsson never obtained a license or other rights to the Asserted Patents, and its infringing products remain unlicensed to this day.

**COUNT 1**  
**INFRINGEMENT OF U.S. PATENT NO. RE48,089 E**

114. KPN repeats and incorporates by reference each preceding paragraph as if fully set forth herein, and further states:

115. Ericsson has directly infringed, and continues to directly infringe, the '089 Patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, one or more products that practice various claims of the '089 Patent literally or under the doctrine of equivalents (hereafter "'089 Accused Products"). At a minimum, such '089 Accused Products include all devices that operate as described in the claims of the '089 Patent. This includes products like the Ericsson 5G Radio Access Network, Ericsson LTE Radio Access Network and Ericsson WCDMA Radio Access Network components, including their respective Next Generation NodeB or gNB (5G), eNodeB or eNB (LTE), Radio Network Controller or RNC (WCDMA), and Ericsson Network Management System (e.g., the Ericsson Network Manager) components.

116. As detailed below, these products meet every element of at least Claim 1 of the '089 Patent literally or under the doctrine of equivalents.<sup>1</sup> Further, the identified components and functionality are representative of the components and functionality present in all '089 Accused Products.

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<sup>1</sup> This description is illustrative and is not intended to be an exhaustive or limiting explanation of every manner in which each '089 Accused Product infringes the '089 Patent.

[REDACTED]

117. Claim 1 of the '089 Patent recites an automatic coverage assessment system configured for generating a coverage assessment for a second wireless access network of a telecommunications infrastructure comprising a first wireless access network and the second wireless access network, the first and second wireless access networks capable of providing services to a plurality of terminals, the system comprising an information collector; and a coverage estimator, wherein the information collector is configured to select one or more terminals from at least part of the plurality of the terminals, the at least part of the plurality of the terminals capable of communicating with both the first wireless access network and the second wireless access network, instruct the selected one or more terminals to measure signals from the second wireless access network, obtain measurement information indicative of the signals measured from the second wireless access network by the selected one or more terminals, and provide the measurement information to the coverage estimator, and wherein the coverage estimator is configured to: obtain the measurement information from the information collector, and based on the obtained measurement information, generate the coverage assessment for the second wireless access network of the telecommunications infrastructure.

118. Specifically, the '089 Accused Products are devices that are configured to operate in an environment with two different wireless access networks (i.e., wireless access networks with different Radio Access Technologies ("RATs")), each capable of providing services to a plurality of terminals:

## NR Radio Access Network

NR Radio Access Network brings the latest software for Ericsson Radio System 5G networks.

Ericsson's 5G NR RAN is part of Ericsson Radio System and a vital component of our 5G platform. NR RAN encloses a future-proof software offering, co-existing with LTE and smoothly integrating 5G NR.

Ericsson's NR RAN is built for multiple frequency bands and for the RAN Compute portfolio, supporting Non-standalone as well as Standalone deployments. NR RAN can be remotely installed on existing Ericsson Radio System radios.



<https://www.ericsson.com/en/portfolio/networks/ericsson-radio-system/radio-system-software/nr-radio-access-network>;

## LTE Radio Access Network

LTE RAN brings you software for Gigabit speeds, using FDD and TDD, housed flexibly on one board.

Ericsson LTE RAN continues to bring a great experience for mobile broadband. The evolution of LTE is still relentless. Several milestones now increase capacity and speed by ten times since the start of LTE.

To enable an efficient means for operators to migrate their legacy RAN to LTE, Ericsson offers advanced mixed-mode (2G/3G/LTE/IoT) solutions which run simultaneously on one Baseband board.

### LTE is now spelled Gigabit LTE

Ericsson LTE now delivers Gigabit speeds to more than ten markets worldwide, adding capacity and cutting time-to-content, for a network that keeps one step ahead of its customers. With this continued strong evolution LTE steadily paves the way for 5G – while reusing the installed base.



<https://www.ericsson.com/en/portfolio/networks/ericsson-radio-system/radio-system-software/lte-radio-access-network>;

## WCDMA Radio Access Network

WCDMA comes with Flow of Users and Zero Touch, reducing OPEX and improving voice, with the best KPIs.

Through Ericsson's WCDMA Radio Access Network operators can provide a seamless experience as they introduce LTE or continue the LTE expansion. Operators also have the tools to radically lower their operational costs, maximize the network efficiency and performance, and always deliver the best customer experience.

Ericsson's WCDMA Flow of Users solution takes an innovative approach to provide the best end-user experience by efficient data traffic management and optimized LTE interworking.

Best voice performance is offered through superior quality voice coverage and the lowest dropped call rate in the market.

The WCDMA Zero Touch solution drastically reduces upgrade time and operation cost while still maintaining great performance. This is achieved through Intelligent network solutions and efficient services.



<https://www.ericsson.com/en/portfolio/networks/ericsson-radio-system/radio-system-software/wcdma-radio-access-network>.

119. Further, the '089 Accused Products are comprised of both an information collector (e.g., a gNB (5G), eNodeB (LTE), or Radio Network Controller (WCDMA)) and a coverage estimator (e.g., an Ericsson Network Manager).

120. Further, the '089 Accused Products are configured to select one or more terminals and instruct each such terminal to measure signals from at least one other wireless access network.

121. Further, the '089 Accused Products are configured to receive measurement information indicative of the signals measured by the one or more terminals of such other network and provide that measurement information to the coverage estimator.

122. Further, upon information and belief, the '089 Accused Products are configured to provide such information to an Ericsson Network Manager, which is configured to receive such information and generate a coverage assessment for the second wireless access network:

## Network Manager

Network virtualization, software-defined networking (SDN), and analytics provide the automation, programmability, and agility needed to deliver complex services and new use cases in 5G networks. Today's networks must be flexible and scalable to support massive numbers of devices across different verticals. As these networks continue to transform, the foreseeable future will feature a blend of legacy and virtualized network functions, resulting in hybrid networks. To manage these flexible, programmable, evolving hybrid networks, service providers will need to employ network management covering radio, transport, and core network technologies in an end-to-end manner.

As an entirely unified network manager with universal applications for all network technologies, Ericsson's Network Manager provides precisely this end-to-end flexibility, enabling a seamless and efficient operation between networks and network layers as well as a set of unified applications and tools to securely manage radio access, transport, and core networks. The Ericsson Network Manager's uniform operational environment includes a collection of consolidated management functions based on a cloud-ready software platform and delivers close to zero downtime during software upgrades, ensuring the full visibility and control of networks.



<https://www.ericsson.com/en/portfolio/digital-services/automated-network-operations/network-management/network-manager>.

123. Ericsson thus directly infringed, and continues to directly infringe, each element of at least Claim 1 of the '089 Patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '089 Accused Products.

124. In addition, Ericsson indirectly infringed, and continues to directly infringe, Claim 1 of the '089 Patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including partners and service providers, in the United States, through the dissemination of the '089 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts would result in the direct infringement of the '089 Patent.

125. For example, Ericsson took active steps to encourage service providers and other customers to use the '089 Accused Products in the United States in a manner that would directly infringe each element of at least Claim 1 of the '089 Patent as described above, including by creating and distributing various training programs for use of the Ericsson 5G Radio Access Network ([https://www.ericsson.com/en/portfolio/training-offerings?page=learning\\_path&path=19](https://www.ericsson.com/en/portfolio/training-offerings?page=learning_path&path=19)); Ericsson LTE Radio Access Network ([https://mediabank.ericsson.net/deployedFiles/ericsson.com/498\\_03819-FAP%20130%20506\\_Long%20Term%20Evolution%20Radio%20Access%20Network%20L18%20Rev%20B.pdf](https://mediabank.ericsson.net/deployedFiles/ericsson.com/498_03819-FAP%20130%20506_Long%20Term%20Evolution%20Radio%20Access%20Network%20L18%20Rev%20B.pdf)); Ericsson WCDMA Radio Access Network ([https://mediabank.ericsson.net/deployedFiles/ericsson.com/WCDMA%20RAN%202019\\_2020%20-%20Rev%20-%20A.pdf](https://mediabank.ericsson.net/deployedFiles/ericsson.com/WCDMA%20RAN%202019_2020%20-%20Rev%20-%20A.pdf)); and Ericsson Network Manager ([https://www.ericsson.com/en/portfolio/training-offerings?page=learning\\_path&path=4](https://www.ericsson.com/en/portfolio/training-offerings?page=learning_path&path=4)).

126. In short, Ericsson actively induced, and continues to actively induce, the direct infringement of the '089 Patent by service providers and other customers by distributing at least the Ericsson 5G Radio Access Network, Ericsson LTE Radio Access Network, and/or Ericsson WCDMA Radio Access Network and, among other things, creating and distributing various programs that train such customers to use them in an infringing manner.

127. Further, Ericsson took such active steps after receiving the above described notice of the '089 Patent and its infringement of it.

128. In addition, Ericsson has indirectly infringed, and continues to indirectly infringe, Claim 1 of the '089 Patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, the '089 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '089 Patent, and despite the fact that the infringing technology or aspects of each '089 Accused Product are not a staple article of commerce suitable for substantial non-infringing use.

129. In addition, Ericsson's infringement of the '089 Patent was willful. As detailed above, KPN provided Ericsson with notice of the '089 Patent and its infringement of it. Nevertheless, without authorization, Ericsson deliberately continued to infringe the '089 Patent and also encouraged others to infringe the '089 Patent as described above, including by selling and/or using '089 Accused Products in the United States.

130. Ericsson's acts of infringement have caused damage to KPN, and KPN is entitled to recover from Ericsson the damages it has sustained as a result of such wrongful acts in an amount to be proven at trial.

131. Further, KPN states that it is entitled to all damages to which it otherwise is entitled because it has complied with 35 U.S.C. § 287 in that it has not manufactured, used, sold,

[REDACTED]

or offered for sale in the United States, or imported into the United States, any product that practices the '089 Patent, and is not aware of any licensee that has been confirmed to have manufactured, used, sold, or offered for sale in the United States, or imported into the United States, a product that practices the '089 Patent prior to KPN providing Ericsson with notice of its infringement of this patent.

**COUNT 2**  
**INFRINGEMENT OF U.S. PATENT NO. 8,881,235 B2**

132. KPN repeats and incorporates by reference each preceding paragraph as if fully set forth herein, and further states:

133. Ericsson has directly infringed, and continues to directly infringe, the '235 Patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, one or more products that practice various claims of the '235 Patent literally or under the doctrine of equivalents (hereafter "'235 Accused Products"). At a minimum, such '235 Accused Products include all devices that operate as described in the claims of the '235 Patent. This includes products like the Ericsson Cloud Core Subscription Manager, which is part of Ericsson's Dual-mode 5G Cloud Core solution.

134. As detailed below, the Ericsson Cloud Core Subscription Manager meets every element of at least Claim 11 of the '235 Patent literally or under the doctrine of equivalents.<sup>2</sup> Further, the identified components and functionality of the Ericsson Cloud Core Subscription Manager are representative of the components and functionality present in all '235 Accused Products.

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<sup>2</sup> This description is illustrative and is not intended to be an exhaustive or limiting explanation of every manner in which each '235 Accused Product infringes the '235 Patent.



135. Claim 11 of the '235 Patent recites a network node for service-based authentication of a terminal to a network, the network node comprising a receiver configured to receive an authentication data request; a first generator configured to determine an expected service code associated with the type of communication channel via which the authentication data request was received by the network; and a second generator configured to generate in response to the receipt of an authentication data request a modified expected response, wherein the modification of the expected response depends on the determined expected service code.

136. As the below demonstrates, the Ericsson Cloud Core Subscription Manager is a network node for service-based authentication of a terminal to a network that comprises a receiver configured to receive authentication data requests:

## Cloud Core Subscription Manager

Cloud Core Subscription Manager (CCSM) is the commercial realization of the 3GPP 5G Network Functions (NF's) UDM/ARPF and AUSF, as well as EPC and IMS HSS, and EIR for 2G/3G/4G/5G domains

CCSM allows operators to manage multiple user types (eMBB, mIoT) through any access anchored to a 5G Core or EPC Network, providing:

- User identification and authentication
- User and device authorization
- Access and mobility management
- Subscriber data management
- Harmonized service experience for end-user over different access technologies (4G/5G/WiFi), with service continuity

<https://www.ericsson.com/en/portfolio/digital-services/cloud-core/cloud-unified-data-management-and-policy/subscription-management/cloud-core-subscription-manager>.

137. Further, the Ericsson Cloud Core Subscription Manager is a network node for service-based authentication of a terminal to a network that comprises a first generator



[REDACTED]

configured to determine an expected service code associated with the type of communication channel via which the authentication data request was received by the network and a second generator configured to generate in response to its receipt of an authentication data request a modified expected response based on the determined expected service code.

138. Ericsson thus directly infringed, and continues to directly infringe, each element of Claim 11 of the '235 Patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '235 Accused Products like the Ericsson Cloud Core Subscription Manager.

139. In addition, Ericsson indirectly infringed, and continues to indirectly infringe, Claim 11 of the '235 Patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including partners and service providers, in the United States, through the dissemination of the '235 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts would result in the direct infringement of the '235 Patent.

140. For example, Ericsson took active steps to encourage service providers and other customers to use the '235 Accused Products in the United States in a manner that would directly infringe each element of at least Claim 11 of the '235 Patent as described above, including by creating and distributing various training programs for use of Ericsson's 5G Core systems (<https://www.ericsson.com/en/portfolio/training-offerings?page=details&id=1704>).

141. In short, Ericsson actively induced, and continues to actively induce, the direct infringement of the '235 Patent by service providers and other customers by distributing at least

[REDACTED]

the Ericsson Cloud Core Subscription Manager and, among other things, creating and distributing various programs that train the audience to use the Ericsson Cloud Core Subscription Manager in an infringing manner.

142. Further, Ericsson took such active steps after receiving the above described notice of the '235 Patent and its infringement of it.

143. In addition, Ericsson has indirectly infringed, and continues to indirectly infringe, Claim 11 of the '235 Patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, the '235 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '235 Patent, and despite the fact that the infringing technology or aspects of each '235 Accused Product are not a staple article of commerce suitable for substantial non-infringing use.

144. In addition, Ericsson's infringement of the '235 Patent was willful. As detailed above, KPN provided Ericsson with notice of the '235 Patent and its infringement of it. Nevertheless, without authorization, Ericsson deliberately continued to infringe the '235 Patent and also encouraged others to infringe the '235 Patent as described above, including by selling and/or using '235 Accused Products in the United States.

145. Ericsson's acts of infringement have caused damage to KPN, and KPN is entitled to recover from Ericsson the damages it has sustained as a result of such wrongful acts in an amount to be proven at trial.

146. Further, KPN states that it is entitled to all damages to which it otherwise is entitled because it has complied with 35 U.S.C. § 287 in that it has not manufactured, used, sold, or offered for sale in the United States, or imported into the United States, any product that practices the '235 Patent, and is not aware of any licensee that has been confirmed to have

manufactured, used, sold, or offered for sale in the United States, or imported into the United States, a product that practices the '235 Patent prior to KPN providing Ericsson with notice of its infringement of this patent.

**COUNT 3**  
**INFRINGEMENT OF U.S. PATENT NO. 9,253,637 B2**

147. KPN repeats and incorporates by reference each preceding paragraph as if fully set forth herein, and further states:

148. Ericsson has directly infringed, and continues to directly infringe, the '637 Patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, one or more products that practice various claims of the '637 Patent literally or under the doctrine of equivalents (hereafter "'637 Accused Products"). At a minimum, such '637 Accused Products include all devices that operate as described in the claims of the '637 Patent. This includes products like the Ericsson SGSN-MME and the Ericsson Packet Core Controller.

## SGSN-MME

Ericsson SGSN-MME is the world's most widely deployed SGSN/MME of the market. It not only supports all 3GPP access types (GSM, WCDMA and LTE) as well as non-3GPP accesses (Wi-Fi and CDMA), being the central network function for mobility and session management, Ericsson SGSN-MME provides superior scalability and performance.

Our latest software release can be deployed as a physical network function (PNF), as well as a virtual network function (VNF), supported on Ericsson Cloud Execution Environments and on other third-party SW cloud infrastructures.

Main features include:

- 5G Radio support and 5G terminals (3GPP Option 3) and 5G-CN initiatives in 3GPP
- IoT rich feature set, including UE Power Saving Mode that enables +10 years battery life
- Optimization and Control of device signaling
- Mobility-based Policy for optimized network use and enhanced propositions to new customer segments
- Geo-redundancy pooling for maximum ISP and network robustness
- O&M for high availability and efficient operations
- Hybrid deployments of both PNF and VNF, with mixed pool configurations, for increase flexibility of various network architectures
- Continuous deployment through monthly deliveries



<https://www.ericsson.com/en/portfolio/digital-services/cloud-core/cloud-packet-core/sgsn-mme>.

## Packet Core Controller

Ericsson Packet Core Controller is the new, cloud native control plane signaling processing function in the Ericsson dual-mode 5G Core offering. It provides the access, session, mobility and gateway control functions to support the new 5G use-cases.

The Packet Core Controller is built using cloud native and Service Based Architecture technologies to deliver a flexible and efficient software product and plays a key role in the Ericsson dual-mode 5G Core offering.

It complies with 3GPP Rel 15 specification, implementing the MME, SGW-C, PGW-C, AMF and SMF control plane network functions.

With high-valued functions like reduced signaling, adaptive paging algorithms, as well as the capability to provide service continuation to subscribers during network disturbance and network assurance with software probes, it includes a complete feature-set for MBB, Massive IoT, VoLTE and 5G NSA/SA.



<https://www.ericsson.com/en/portfolio/digital-services/cloud-core/cloud-packet-core/packet-core-controller>.

149. As detailed below, the Ericsson SGSN-MME and the Ericsson Packet Core Controller meet every element of at least Claim 16 of the '637 Patent literally or under the doctrine of equivalents.<sup>3</sup> Further, the identified components and functionality of the Ericsson SGSN-MME and the Ericsson Packet Core Controller are representative of the components and functionality present in all '637 Accused Products.

150. Claim 16 of the '637 Patent recites a telecommunications network configured for providing access to a plurality of terminals, each terminal of the plurality comprising a unique identifier for accessing the telecommunications network, wherein the telecommunications network comprises a register configured for storing the unique identifier of at least one terminal in combination with at least one access deny time interval, during which access to the telecommunications network for the at least one terminal is denied; an access request receiver configured for receiving an access request and determining the unique identifier for accessing the

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<sup>3</sup> This description is illustrative and is not intended to be an exhaustive or limiting explanation of every manner in which each '637 Accused Product infringes the '637 Patent.

telecommunications network from the at least one terminal; one or more processors and memory storing process instructions that, when executed by the one or more processors, cause the one or more processors to carry out operations including: an access operation for denying network access for the at least one terminal if the access request is received within the access deny time interval; and a serving controller entity configured for transmitting one of access denial information or access grant information to the at least one terminal, wherein the at least one terminal transmits an access request to the telecommunications network only outside the access deny time interval identified according to whichever one of the access denial information or the access grant information is transmitted by the serving controller, wherein a class of applications that do not require immediate transfer of data are executed, and wherein the access deny time interval for each terminal is a variable time interval x-y that is scheduled depending on network load experienced by, or expected for, the telecommunications network, access to the telecommunications network being denied to the each terminal if the network load is above, or expected to be above, a particular threshold.

151. The Ericsson SGSN-MME and the Ericsson Packet Core Controller include one or more registers configured to store unique identifiers for at least one terminal in combination with at least one access deny interval during which a terminal is denied access to at least some network resources:

#### High capacity and performance

Our latest virtual SGSN-MME is capable to handle the most aggressive traffic demands of an increasing number of connections and exploding volume of data traffic.

#### Multi-access and multi-device services

SGSN-MME supports multi-access, 2G/3G/4G/5G and Wi-Fi networks to meet end-users' requirements for access- and, device-independent services.

#### Industry-leading feature set and more deployment options

SGSN-MME has evolved to incorporate innovative features from 300 deployments to enable operators use networks for a growing number of services and scenarios.

SGSN-MME can be deployed as virtual network function, supporting CI/CD through monthly deliveries.

<https://www.ericsson.com/en/portfolio/digital-services/cloud-core/cloud-packet-core/sgsn-mme>.



**Optimized Total Cost of Ownership**

Ericsson Packet Core Controller works as a dual-mode 5G Core control plane for both EPC and 5GC to address the still growing 4G networks and to support the introduction of 5G.

Total Cost of Ownership is optimized thanks to flexible deployments and smooth evolution paths. Network efficiency and simplified operations is achieved through unified O&M, high degree of automation and In-Service SW Upgrade.

**Be first with 5G**

Time to Market has never been more important to be able to create new business opportunities and revenue streams.

Ericsson Packet Core Controller is validated end-to-end with 5G New Radio (NR) allowing you to start building a programmable and use-case driven network. Together with supported evolution paths from EPC to 5G EPC and 5G Core, it offers a fast, flexible and smooth 5G introduction.

**A leap forward in automation**

Ericsson Packet Core Controller introduces new tools, technologies and features to support advanced levels of operational automation and programmability.

Continuous Integration and Continuous Deployment (CI/CD), in-service software upgrade, and life cycle orchestration in compliance with ONAP & ETSI MANO, provides new levels of operational efficiency. Machine learning, artificial intelligence together with advanced analytics will lead us towards the zero-touch vision of a fully automated network.

<https://www.ericsson.com/en/portfolio/digital-services/cloud-core/cloud-packet-core/packet-core-controller>.

152. Further, the Ericsson SGSN-MME and the Ericsson Packet Core Controller are configured to receive a request for access from one or more terminals and determine the unique identifier of such one or more terminals.

153. Further, the Ericsson SGSN-MME and the Ericsson Packet Core Controller are configured to carry out operations including transmitting access denial information or access grant information to at least one terminal and denying access to the network for one or more terminals if an access request is received within an access deny time interval, such interval being a variable time interval x-y that is scheduled depending on network load experienced by, or expected for, the telecommunications network, and during which access to the telecommunications network is denied to one or more terminals if the network load is above, or is expected to be above, a particular threshold.

154. Ericsson thus directly infringed, and continues to directly infringe, each element of Claim 16 of the '637 Patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '637 Accused Products like the Ericsson SGSN-MME and the Ericsson Packet Core Controller.

[REDACTED]

155. In addition, Ericsson indirectly infringed, and continues to indirectly infringe, Claim 16 of the '637 Patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including partners and service providers, in the United States, through the dissemination of the '637 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts would result in the direct infringement of the '637 Patent.

156. For example, Ericsson took active steps to encourage service providers and other customers to use the '637 Accused Products in the United States in a manner that would directly infringe each element of at least Claim 16 of the '637 Patent as described above, including by creating and distributing various training programs for use of the Ericsson SGSN-MME ([https://mediabank.ericsson.net/deployedFiles/ericsson.com/507\\_03819-FAP130506\\_PacketCoreNetwork2019\\_A%20Course%20description.pdf](https://mediabank.ericsson.net/deployedFiles/ericsson.com/507_03819-FAP130506_PacketCoreNetwork2019_A%20Course%20description.pdf)) and by publishing promotional material about the Ericsson Packet Core Controller (<https://mediabank.ericsson.net/deployedFiles/ericsson.com/Ericsson%20Packet%20Core%20Controller.pdf>).

157. In short, Ericsson actively induced, and continues to actively induce, the direct infringement of the '637 Patent by service providers and other customers by distributing at least the Ericsson SGSN-MME and the Ericsson Packet Core Controller and, among other things, creating and distributing various programs that train the audience to use the Ericsson SGSN-MME in an infringing manner and creating and distributing promotional materials that encourage customers to use the Ericsson Packet Core Controller in an infringing manner.

158. Further, Ericsson took such active steps after receiving the above described notice of the '637 Patent and its infringement of it.

159. In addition, Ericsson has indirectly infringed, and continues to indirectly infringe, Claim 16 of the '637 Patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, the '637 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '637 Patent, and despite the fact that the infringing technology or aspects of each '637 Accused Product are not a staple article of commerce suitable for substantial non-infringing use.

160. In addition, Ericsson's infringement of the '637 Patent was willful. As detailed above, KPN provided Ericsson with notice of the '637 Patent and its infringement of it. Nevertheless, without authorization, Ericsson deliberately continued to infringe the '637 Patent and also encouraged others to infringe the '637 Patent as described above, including by selling and/or using '637 Accused Products in the United States.

161. Ericsson's acts of infringement have caused damage to KPN, and KPN is entitled to recover from Ericsson the damages it has sustained as a result of such wrongful acts in an amount to be proven at trial.

162. Further, KPN states that it is entitled to all damages to which it otherwise is entitled because it has complied with 35 U.S.C. § 287 in that it has not manufactured, used, sold, or offered for sale in the United States, or imported into the United States, any product that practices the '637 Patent, and is not aware of any licensee that has been confirmed to have manufactured, used, sold, or offered for sale in the United States, or imported into the United States, a product that practices the '637 Patent prior to KPN providing Ericsson with notice of its infringement of this patent.



**COUNT 4**  
**INFRINGEMENT OF U.S. PATENT NO. 9,549,426 C2**

163. KPN repeats and incorporates by reference each preceding paragraph as if fully set forth herein, and further states:

164. Ericsson directly infringed, and continues to directly infringe, the '426 Patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, one or more products that practice various claims of the '426 Patent literally or under the doctrine of equivalents (hereafter "'426 Accused Products"). At a minimum, such '426 Accused Products include all devices that operate as described in the claims of the '426 Patent. This includes products like the Ericsson Packet Core Controller, the Ericsson Cloud Core Subscription Manager, and the Ericsson Cloud Core Data-Storage Manager.

165. As detailed below, the Ericsson Packet Core Controller meets every element of at least Claim 10 of the '426 Patent literally or under the doctrine of equivalents.<sup>4</sup> Further, the identified components and functionality of the Ericsson Packet Core Controller are representative of the components and functionality present in all '426 Accused Products.

166. Claim 10 of the '426 Patent recites a telecommunications node configured for use in a telecommunications system, wherein the telecommunications system comprises a subscriber database containing subscription data of a user equipment, the telecommunications node comprising a processor having access to instructions that when executed cause the telecommunications node to carry out operations including: receiving in a first transfer stage a first set of subscription data from the subscriber database and storing the first set of subscription

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<sup>4</sup> This description is illustrative and is not intended to be an exhaustive or limiting explanation of every manner in which each '426 Accused Product infringes the '426 Patent.

[REDACTED]

data in the telecommunications node, wherein, as received, the first set of subscription data, being configured as a partial subset of a complete set of subscription data that are required for enabling establishing a communication session between the user equipment and the telecommunications system, is insufficient for enabling establishing a communication session between the user equipment and the telecommunications system; if establishing a communication session is required between the user equipment and the telecommunications system, subsequent to receiving the first set of subscription data, receiving in a second transfer stage following the first transfer stage, a second set of subscription data from the subscriber database, and storing the second set of subscription data in the telecommunications node, wherein, as received, the second set of subscription data is configured to be an additional partial subset of the complete set of subscription data that in combination with the first set of subscription data is the complete set of subscription data that is sufficient for enabling establishing a communication session between the user equipment and the telecommunications system; and if an authentication step is required, receiving authentication data prior to the receiving in the first transfer stage.

167. The Ericsson Packet Core Controller has access to instructions that, when executed, cause it to be able to receive in a first transfer stage a first set of subscription data from the subscriber database and store the first set of subscription data in the telecommunications node, wherein, as received, the first set of subscription data comprises a partial subset of the subscription data required to establish a communication session between at least one user equipment and the telecommunications system, and, if establishing a communication session is required between the user equipment and the telecommunications system subsequent to receiving the first set of subscription data, further receive in a second transfer stage a second set of

subscription data from the subscriber database and storing the second set of subscription data in the telecommunications node, wherein the second set of subscription data is configured to be an additional partial subset of the complete set of subscription data that, in combination with the first set of subscription data is the complete set of subscription data that is sufficient for enabling establishing a communication session between the user equipment and the telecommunications system.

## Packet Core Controller

Ericsson Packet Core Controller is the new, cloud native control plane signaling processing function in the Ericsson dual-mode 5G Core offering. It provides the access, session, mobility and gateway control functions to support the new 5G use-cases.

The Packet Core Controller is built using cloud native and Service Based Architecture technologies to deliver a flexible and efficient software product and plays a key role in the Ericsson dual-mode 5G Core offering.

It complies with 3GPP Rel 15 specification, implementing the MME, SGW-C, PGW-C, AMF and SMF control plane network functions.

With high-valued functions like reduced signaling, adaptive paging algorithms, as well as the capability to provide service continuation to subscribers during network disturbance and network assurance with software probes, it includes a complete feature-set for MBB, Massive IoT, VoLTE and 5G NSA/SA.



### Optimized Total Cost of Ownership

Ericsson Packet Core Controller works as a dual-mode 5G Core control plane for both EPC and 5GC to address the still growing 4G networks and to support the introduction of 5G.

Total Cost of Ownership is optimized thanks to flexible deployments and smooth evolution paths. Network efficiency and simplified operations is achieved through unified O&M, high degree of automation and In-Service SW Upgrade.

### Be first with 5G

Time to Market has never been more important to be able to create new business opportunities and revenue streams.

Ericsson Packet Core Controller is validated end-to-end with 5G New Radio (NR) allowing you to start building a programmable and use-case driven network. Together with supported evolution paths from EPC to 5G EPC and 5G Core, it offers a fast, flexible and smooth 5G introduction.

### A leap forward in automation

Ericsson Packet Core Controller introduces new tools, technologies and features to support advanced levels of operational automation and programmability.

Continuous Integration and Continuous Deployment (CI/CD), in-service software upgrade, and life cycle orchestration in compliance with ONAP & ETSI MANO, provides new levels of operational efficiency. Machine learning, artificial intelligence together with advanced analytics will lead us towards the zero-touch vision of a fully automated network.

<https://www.ericsson.com/en/portfolio/digital-services/cloud-core/cloud-packet-core/packet-core-controller>.

168. Further, the Ericsson Packet Core Controller also has access to instructions that, when executed, cause it to act such that, if an authentication step is required, it receives authentication data prior to the receiving in the first transfer stage.

169. Ericsson thus directly infringed, and continues to directly infringe, each element of Claim 10 of the '426 Patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '426 Accused Products like the Ericsson Packet Core Controller.

170. In addition, Ericsson indirectly infringed, and continues to indirectly infringe, the '426 Patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including partners and service providers, in the United States, through the dissemination of the '426 Accused Products and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts would result in the direct infringement of the '426 Patent.

171. For example, Ericsson took active steps to encourage service providers and other customers to use the '426 Accused Products in the United States in a manner that would directly infringe each element of at least Claim 10 of the '426 Patent as described above, including by operating a training center in Lewisville, Texas to train technicians and others in deployment of 5G technologies. (<https://www.rcrwireless.com/20190211/5g/ericsson-opens-5g-training-center-texas>).

172. In short, Ericsson actively induced, and continues to actively induce, the direct infringement of the '426 Patent by service providers and other customers by distributing at least the Ericsson Packet Core Controller and, among other things, operating a physical center in Lewisville, Texas to train technicians to install, deploy, and use the Ericsson Packet Core Controller in an infringing manner.

173. Further, Ericsson took such active steps after receiving the above described notice of the '426 Patent and its infringement of it.

174. In addition, Ericsson has indirectly infringed and continues to indirectly infringe the '426 Patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the United States, or importing into the United States, the '426 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '426 Patent, and despite the fact that the infringing technology or aspects of each '426 Accused Product are not a staple article of commerce suitable for substantial non-infringing use.

175. In addition, Ericsson's infringement of the '426 Patent was willful. As detailed above, KPN provided Ericsson with notice of the '426 Patent and its infringement of it. Nevertheless, without authorization, Ericsson deliberately continued to infringe the '426 Patent and also encouraged others to infringe the '426 Patent as described above, including by selling and/or using '426 Accused Products in the United States.

176. Ericsson's acts of infringement have caused damage to KPN, and KPN is entitled to recover from Ericsson the damages it has sustained as a result of such wrongful acts in an amount to be proven at trial.

177. Further, KPN states that it is entitled to all damages to which it otherwise is entitled because it has complied with 35 U.S.C. § 287 in that it has not manufactured, used, sold, or offered for sale in the United States, or imported into the United States, any product that practices the '426 Patent, and is not aware of any licensee that has been confirmed to have manufactured, used, sold, or offered for sale in the United States, or imported into the United States, a product that practices the '426 Patent prior to KPN providing Ericsson with notice of its infringement of this patent.

**COUNT 5**  
**INFRINGEMENT OF U.S. PATENT NO. 9,667,669 B2**

178. KPN repeats and incorporates by reference each preceding paragraph as if fully set forth herein, and further states:

179. Ericsson has directly infringed, and continues to directly infringe, the '669 Patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, one or more products that practice various claims of the '669 Patent literally or under the doctrine of equivalents (hereafter "'669 Accused Products"). At a minimum, such '669 Accused Products include all devices that operate as described in the claims of the '669 Patent. This includes products like Ericsson's "Business Communication Services and Enablers," including the Ericsson Communication Accelerator and Ericsson Contextual Communication Cloud.

## Business Communication Services and Enablers

Business Communication Services and Enablers provides advanced communication services for enterprise and business users and enables integration of VoLTE in the enterprise communication ecosystem. It includes five offerings: Ericsson Communication Accelerator, Virtual Private Network, Service Number Application, VoLTE for Unified Communication, and SIP Trunking.



### OUR RANGE OF PRODUCTS

#### Communication Accelerator

Ericsson Communication Accelerator is as-a-service platform providing advance communication services

#### Service Number Application

Enables telecom operators to support enterprise customers with a highly featured and flexible service.

#### Virtual Private Network (VPN)

A software based solution to define a Virtual Private Network from physical telecommunication networks.

#### VoLTE for Unified Communication

Allows operators to offer business users high quality communication services using all-IP technology.

#### Contextual Communication Cloud

Targeting large enterprises that want to reap the benefits of process integrated communication.

#### SIP Trunking

Ericsson SIP Trunking connects enterprise communications systems to public telecom networks.



<https://www.ericsson.com/en/portfolio/digital-services/cloud-communication/enterprise-communication/business-communication-services-and-enablers>.

180. As detailed below, Ericsson's Business Communication Services and Enablers meet every element of at least Claim 1 of the '669 Patent literally or under the doctrine of equivalents.<sup>5</sup> Further, the identified components and functionality are representative of the components and functionality present in all '669 Accused Products.

181. Claim 1 of the '669 Patent recites a method for managing associated sessions in a network, the network having a network element configured for managing associated sessions between the network and at least one user equipment, the method comprising: providing a composition session identifier for associating sessions in the network; after providing the composition session identifier, exchanging the composition session identifier between a user equipment and the network element a first time; associating two or more sessions with the composition session identifier by exchanging the composition session identifier at least a second time, wherein exchanging the composition session identifier at least a second time comprises the network element exchanging the composition session identifier with the user equipment; initiating establishment of a composition session, the composition session being a signaling session for facilitating management of the two or more sessions and exchanging the composition session identifier between the user equipment and the network element as part of said establishment, the composition session being different from the two or more sessions; and modifying the composition session, wherein modifying the composition session comprises using signaling in the composition session to terminate all of the two or more sessions.

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<sup>5</sup> This description is illustrative and is not intended to be an exhaustive or limiting explanation of every manner in which each '669 Accused Product infringes the '669 Patent.

182. Ericsson's Business Communication Services and Enablers are configured to manage real-time media sessions between a network and a WebRTC-enabled device by providing a composition session identifier for associating the real-time media sessions in the network and exchanging that composition session identifier a first time with at least one use equipment. For example, Ericsson admits that the Ericsson Contextual Communication Cloud relies on WebRTC technology, in which a network provides a composition session identifier for associating the real-time media sessions in the network and exchanges that composition session identifier a first time with at least one WebRTC-enabled user equipment.

## Contextual Communication Cloud

Ericsson Contextual Communication Cloud is a service provider offering targeting large enterprises that want to reap the benefits of process integrated communication or build new IoT/5G services with integrated communication services. The service is fully managed by Ericsson and runs on Ericsson data centers, but can also be deployed on service provider data centers or public clouds.

The Ericsson Contextual Communication Cloud allows easy integration of advanced communication and collaboration services into any website or application using flexible APIs and SDKs using well established technologies like HTML5 and WebRTC. It fundamentally changes the way services can be created, offered and consumed. It creates the potential to enhance existing business processes within different industry verticals, increasing effectiveness and efficiency of existing processes, or enhancing the user experience of customer interfaces to build intimacy or trust with the customers. Currently, we see great opportunities in bank and finance verticals, as well as healthcare and government verticals, but we are also delivering remote machine control over the WebRTC secure and encrypted data channel. We envision that any business process that can benefit from communication will have it integrated in the future.

<https://www.ericsson.com/en/portfolio/digital-services/cloud-communication/enterprise-communication/business-communication-services-and-enablers/contextual-communication-cloud>.



[REDACTED]

At Ericsson, we believe WebRTC has the potential to transform the internet, making personalized communication a natural part of any company's web portal. Ericsson Contextual Communication Cloud is a service provider offering targeting large enterprises, where we worked to solve some of the most complex challenges in using WebRTC for communication services.

<https://www.ericsson.com/en/blog/2018/1/develop-enterprise-cloud-communication-services-with-webrtcfree-software-trial>.

183. Further, in implementing WebRTC, Ericsson's Business Communication Services and Enablers associate two or more sessions with the composition session identifier by exchanging it with a WebRTC-enabled user equipment a second time.

184. Further, in implementing WebRTC, Ericsson's Business Communication Services and Enablers initiate establishment of a composition session, which is a signaling session for facilitating management of two or more sessions, and exchanging the composition session identifier with a WebRTC-enabled user equipment—the composition session being different from the two or more sessions.

185. Further, in implementing WebRTC, Ericsson's Business Communication Services and Enablers modify the composition session by using signaling to terminate all of the sessions.

186. Ericsson thus directly infringed, and continues to directly infringe, each element of at least Claim 1 of the '669 Patent by selling and offering to sell in the United States, and by importing into the United States, without authorization, '669 Accused Products like Ericsson's Business Communication Services and Enablers.

187. In addition, Ericsson indirectly infringed, and continues to indirectly infringe, Claim 1 of the '669 Patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by third parties, including partners, service providers, and end-users, in the United States, through the dissemination of the '669 Accused Products and the

[REDACTED]

creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products with knowledge and the specific intent that its efforts would result in the direct infringement of the '669 Patent.

188. For example, Ericsson took active steps to encourage service providers and other customers to use the '669 Accused Products in the United States in a manner that would directly infringe each element of at least Claim 1 of the '669 Patent as described above, including by directly advertising the Ericsson Contextual Communication Cloud to service providers, highlighting its WebRTC capabilities, and offering those service providers a free trial of the Ericsson Contextual Communication Cloud (<https://www.ericsson.com/en/blog/2018/1/develop-enterprise-cloud-communication-services-with-webrtcfree-software-trial>).

189. Ericsson also took active steps to encourage service providers and other customers to use the '669 Accused Products in the United States in a manner that would directly infringe each element of at least Claim 1 of the '669 Patent as described above, by releasing and promoting its WebRTC open source client (<https://github.com/EricssonResearch/openwebrtc>).

190. In short, Ericsson actively induced, and continues to actively induce, the direct infringement of the '669 Patent by service providers and other customers by distributing at least the Ericsson Contextual Communication Cloud and, among other things, directly promoting use of the Ericsson Contextual Communication Cloud in a manner that infringes the '669 Patent.

191. Further, Ericsson took such active steps after receiving the above described notice of the '669 Patent and its infringement of it.

192. In addition, Ericsson has indirectly infringed, and continues to indirectly infringe, Claim 1 of the '669 Patent in violation of 35 U.S.C. § 271(c) by selling or offering to sell in the

[REDACTED]

United States, or importing into the United States, the '669 Accused Products with knowledge that they are especially designed or adapted to operate in a manner that infringes the '669 Patent, and despite the fact that the infringing technology or aspects of each '669 Accused Product are not a staple article of commerce suitable for substantial non-infringing use.

193. In addition, Ericsson's infringement of the '669 Patent was willful. As detailed above, KPN provided Ericsson with notice of the '669 Patent and its infringement of it. Nevertheless, without authorization, Ericsson deliberately continued to infringe the '669 Patent and also encouraged others to infringe the '669 Patent as described above, including by selling and/or using '669 Accused Products in the United States.

194. Ericsson's acts of infringement have caused damage to KPN, and KPN is entitled to recover from Ericsson the damages it has sustained as a result of such wrongful acts in an amount to be proven at trial.

195. Further, KPN states that it is entitled to all damages to which it otherwise is entitled because it has complied with 35 U.S.C. § 287 in that it has not manufactured, used, sold, or offered for sale in the United States, or imported into the United States, any product that practices the '669 Patent, and is not aware of any licensee that has been confirmed to have manufactured, used, sold, or offered for sale in the United States, or imported into the United States, a product that practices the '669 Patent prior to KPN providing Ericsson with notice of its infringement of this patent.

**DEMAND FOR JURY TRIAL**

196. Plaintiff hereby demands a jury trial for all issues so triable.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff prays for judgment as follows:

- A. Declaring that Ericsson infringed each of the Asserted Patents;
- B. Awarding damages to KPN for such infringement, including enhanced damages pursuant to 35 U.S.C. § 284 and prejudgment and post-judgment interest without any limitation by 35 U.S.C § 287;
- C. Awarding KPN its attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law;
- D. Awarding all other costs and relief that the Court deems just and proper.

Date: March 31, 2021

Respectfully submitted,

/s/ Lexie G. White by permission Claire Henry

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*Attorneys for Koninklijke KPN N.V.*

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing document was served on all counsel of record by email on this 31<sup>st</sup> day of March, 2021.

/s/ Claire Henry

**CERTIFICATE OF AUTHORIZATION TO FILE UNDER SEAL**

Pursuant to Local Rule CV-5(a)(7)(A), the undersigned hereby certifies that a motion for leave to file this document under seal has been filed and is pending before the Court.

/s/ Claire Henry